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ABSTRACT

Graphic organizers (also referred to as structured overviews, mapping, webbing, or pyramiding) are visual aids which depict the relationships among concepts in a text and which reflect the organization of the text. Five patterns of graphic organizers--cause/effect, comparison/contrast, time/order, simple listing, and problem solving--reflect the organizational patterns typically used by writers. Graphic organizers can help improve a student's comprehension in several ways. They require students to use prior knowledge to think about and depict the relationships among concepts and organization of the text. Graphic organizers can also be used as diagnostic and instructional tools, and as prereading or postreading activities. Graphic organizers are effective with both narrative and expository textbooks, and serve as an alternative to traditional outlining. (MM)

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PROMOTING ACTIVE THINKING AND COMPREHENSION THROUGH THE USE OF GRAPHIC ORGANIZERS

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This paper will attempt to achieve the following three major goals:

1) To examine the WHAT of graphic organizers, or definitions and explanations
2) To explore the WHY of graphic organizers, or to examine the value they can have in the classroom
3) To focus on the HOW of graphic organizers, or present ways they can be implemented in the classroom.

WHAT ARE GRAPHIC ORGANIZERS?

Graphic organizers have been defined as visual aids to help children learn from textbooks (Alvermann, 1986). According to Moore, Readence, & Rickelman (1983), graphic organizers depict relationships among concepts and reflect the organization of the text. Glazer & Searfoss (1988) define graphic organizers as visual displays of hierarchical structures of ideas in texts. King (1987) referred to graphic organizers as schematic, visual diagrams which convey the text structure.

Graphic organizers have been called several different names. Harris and Sipay (1985) list the following examples of graphic organizers currently in use:

Structured Overviews (Barron, 1969; Earle, 1970) were developed originally as prereading devices. Later research has recommended that structured overviews follow reading and be teacher assisted.

Mapping involves a categorical structure of information in graphic form (Heimlich & Pittelman, 1986). Different shapes and symbols are used to depict the relationships among concepts and the organization of the text.

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Webbing is a graphic representation of text structure with the main idea or topic in the center. Friedman and Reynolds (1980) demonstrated the use of webbing with basal readers.

Pyramiding depicts the levels of information (main ideas, middle-level ideas, specific details) graphically. It helps students understand the relative importance of information as they take notes or review content material for a test (Clewell & Haidemenos, 1983).

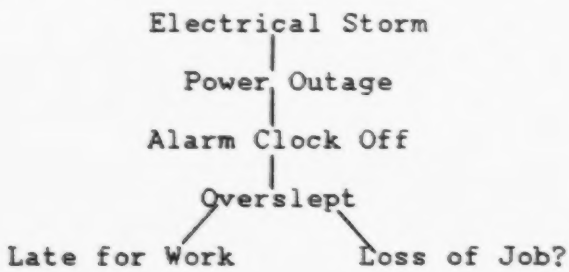
Graphic organizers can be used with narrative material but most research studies have involved informative, expository texts (Alvermann, 1986). Because textbooks generally follow similar patterns of organization, graphic organizers usually follow similar patterns as well. Readence, Bean, & Baldwin (1981, p. 134) suggest there are five organizational patterns utilized by writers. The five patterns and corresponding graphic organizers will be presented in the following pages.

PATTERNS OF GRAPHIC ORGANIZERS

1. Cause/Effect: This pattern represents the interrelationship of two or more objects, events, or ideas. It links a reason with a result.

Example: When Sue arrived home from work she discovered an electrical storm had caused a power outage. She forgot to reset the electric alarm clock and slept late the next day. It is clear that she will be late for work again and fears she might even lose her job.

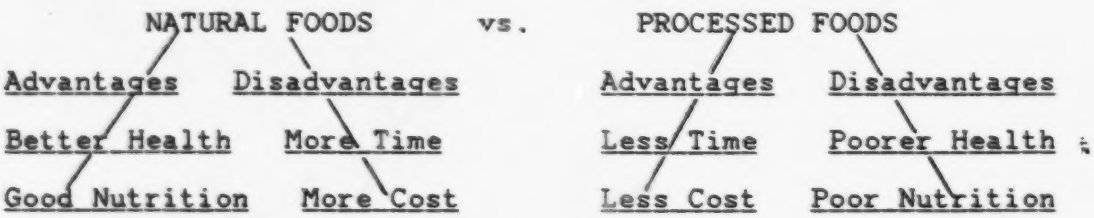
Organizer:



2. Comparison/Contrast: The similarities and differences between two or more objects, events, or ideas are illustrated.

Example: Many doctors are recommending that their patients eat more natural foods and less processed foods. The advantages of natural foods are better health and better nutrition; however, they often cost more and are time consuming to prepare. Consequently, many people choose processed foods with less nutritional value because they cost less and take less time to prepare.

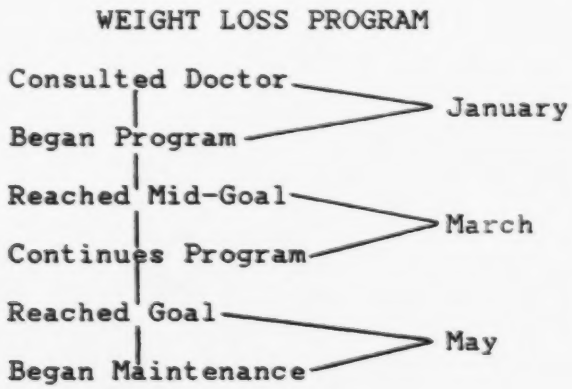
Organizer:



3. Time/Order: The relationships between objects, events, or ideas are presented in chronological order.

Example: Jim went to his doctor in January to begin a weight loss program. He reached his anticipated goal in March. By the end of May, he had lost all the excess weight and started the maintenance program.

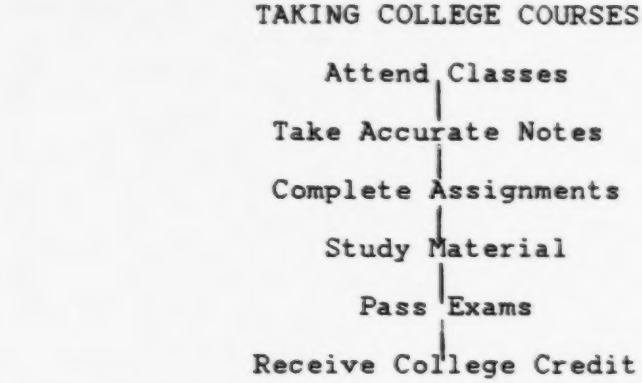
Organizer:



4. Simple Listing: Two or more objects, events, or ideas are listed sequentially according to the author's organization.

Example: College students must attend classes, take accurate notes, complete assignments, study the material, and pass the exams to receive credit for the courses they take.

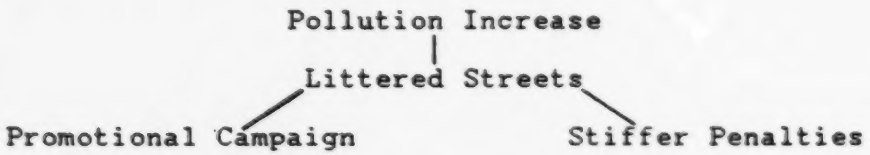
Organizer:



5. Problem/Solution: A problem is stated and a solution provided.

Example: Because the problem of pollution is increasing in our city, the mayor and city council are considering solutions to clean up littered streets. At present the city authorities are planning a promotional campaign to make citizens more aware of the problem. In addition, they are examining the possibility of assessing stiffer penalties for polluting.

Organizer:



WHY SHOULD GRAPHIC ORGANIZERS BE USED?

Graphic organizers can help improve a student's comprehension in several ways. One of these ways involves requiring students to use prior knowledge to think about and depict the relationships among concepts and organization of the text. Research indicates that a student's prior knowledge about a topic is an integral part of the comprehending process (Anderson, 1985). A study by Sullivan (1978) reported that poor readers in high school had difficulty relating material to their prior knowledge. Baker and Brown (1984) suggested that many students lack the metacognitive awareness that one should interpret text based upon background information.

A brochure published by the Michigan Department of Education (1986) restated the importance of prior knowledge and listed some implications for classroom teachers. The brochure recommended that teachers use graphic organizers to guide students to access their prior knowledge before reading, during reading, and after reading. A second research finding published by the Michigan Department of Education was that well organized material is better comprehended and recalled than poorly organized material. The implication listed for classroom teachers was to encourage them to determine when materials are well organized and to provide strategies such as graphic organizers to assist students when materials are not well organized.

Graphic organizers can enhance comprehension because the student can see the relationships among concepts. In addition, the graphic organizer can serve as a framework for a passage to predict what is ahead or to review what has already been read (Moore, Readence, & Rickelman, 1983).

Graphic organizers can be used as diagnostic and instructional tools (Glazer & Searfoss, 1988). They help students see the whole and all its related parts, encouraging immediate comprehension and easy retention. Instead of simply reading about the relationships of concepts, the children actually see them (Hanf, 1971). Graphic organizers can help children associate ideas and locate information independently.

Graphic organizers can be used as prereading or postreading activities (Alvermann, 1986; Moore, Readence & Rickelman, 1983). Because they reflect the organization of material and depict relationships among concepts, they may be used in any content areas. Glaser & Searfoss (1988 p. 167) list the following diagnostic purposes of graphic organizers: 1) to assess students' ability to skim material

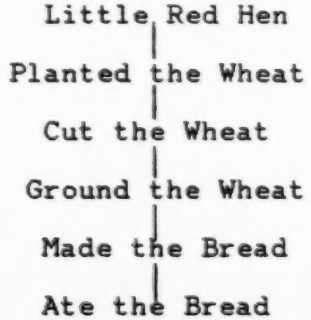
and determine purposes for reading 2) to assess students' recall of information 3) to assess students' ability to define related concepts and 4) to help students summarize information.

According to King (1987), graphic organizers have some extrinsic values for students. One of those values is to provide a visual picture of the story text, thereby helping students see the relationships A second value of graphic organizers is that they serve as a more divergent way of covering the content area, allowing students an additional way to think about the material. Another extrinsic value of using graphic organizers is that they serve as a motivator for discussion. In addition, King states that graphic organizers encourage students to use active thinking and discovery learning.

Researchers explored the effect of using graphic organizers versus traditional outlining on student's comprehension (Bean, Singer, Sorter, and Frazee, 1986). Results of this study indicated that graphic organizers helped students perform significantly higher than students using traditional outlining. In addition, students displayed a significantly more positive attitude toward graphic organizer techniques.

HOW CAN GRAPHIC ORGANIZERS BE USED?

Graphic organizers can be used with both narrative and expository textbooks. An example of a graphic organizer with narrative text utilizing the simple listing pattern follows:



Graphic organizers can be very useful in the content areas that require comprehension of expository textbooks. According to Hoskisson & Tompkins (1987), content area materials follow these patterns: a) description, b) sequence, c) comparison, d) cause and effect, and e) problem and solution. These patterns correspond with those of Readence, Bean, & Baldwin (1981) listed earlier in this paper.

Classroom teachers can help students learn to recognize and use organizational patterns to improve students' comprehension and retention of content area textbooks. Unfortunately, not all reading material is clearly structured, but students who are familiar with different organizational patterns will comprehend the passage better than students who are not aware of the patterns (Hoskisson & Tompkins, 1987, p. 235).

Since most of the work done with graphic organizers has involved informative, expository textbooks (Alvermann, 1986), an example of one in the content areas will be given. The following steps can be utilized in constructing graphic organizers in the classroom (King, 1987; Moore, Readence, & Rickelmann, 1983 p. 52):

1. Identify the major objectives and concepts of the lesson. The following concepts and terms might be included in a study of pollution:

Key Concepts

a. Pollution can make our environment unhealthy.

b. Education can promote an understanding of pollution and help people reduce or eliminate its sources.

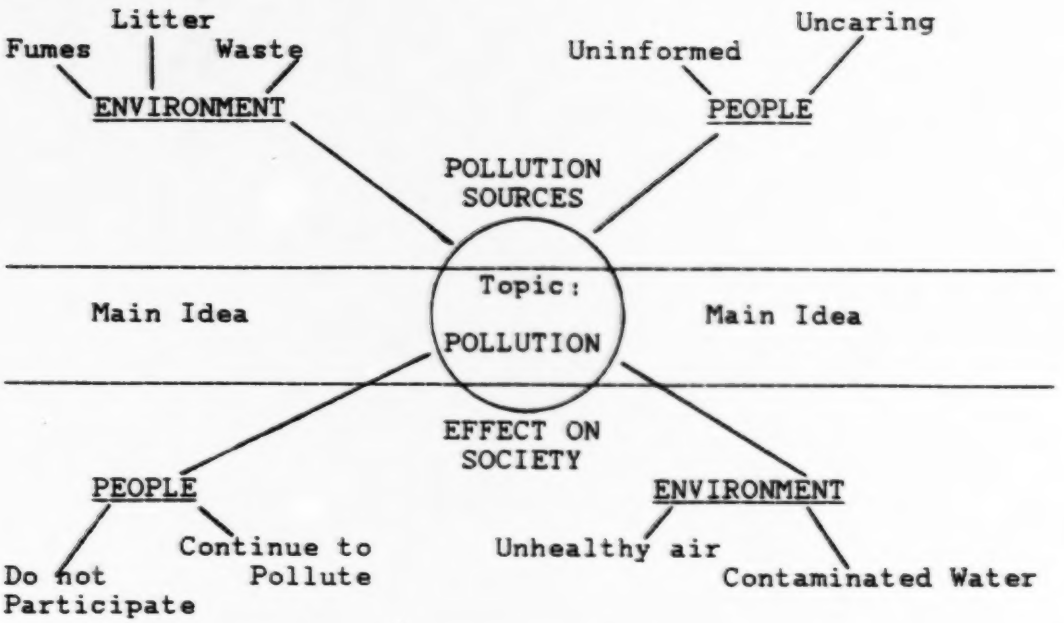
c. Manufacturing plants must learn healthy ways to dispose of waste products.

d. Fumes from vehicles, homes, and factories can pollute the environment.

Key Terms

pollution	environment
waste	litter
fumes	contamination

2. Arrange the key terms into a picture diagram which parallels the text structure. The structure can have many shapes, depending upon the teacher, the organization of the text, and the students' background knowledge. Younger children and lower-ability students may require very simple diagrams. One appropriate diagram of pollution could be the following:



3. Use a chalkboard, ditto, or transparency to present the diagram to the students. Involve the students in the discussion, encouraging them to use prior knowledge to add additional concepts or terms to the diagram.

4. Emphasize the relationships between and among the terms and concepts whenever possible. Be sure the students understand the key terms and concepts and any unclear relationships.

5. Involve the students in discussing the key points and completing the graphic organizer. Unfold the diagram slowly to promote active student involvement. After discussion, the diagram can be left in view to aid subsequent rereading and discussion.

SUMMARY

In this paper we have provided an overview of graphic organizers. The WHAT section of the paper included definitions and examples of graphic organizers currently being used. The WHY portion of the paper explored the value of graphic organizers as instructional tools to improve thinking, comprehension, and retention. In the How section of the paper, we listed some specific steps to guide teachers in using graphic organizers and gave an example to follow.

REFERENCES

Alvermann, D. E. (1986). Graphic organizers: Cuing devices for comprehending and remembering main ideas. In J. F. Baumann (Ed.), Teaching main idea comprehension (pp.210 -224). Newark, Delaware: International Reading Association.

Baker, L., & Brown, A. L. (1984). Cognitive monitoring in reading. In J. Flood (Ed.), Understanding reading comprehension (pp. 21-44). Newark, Delaware: International Reading Association.

Baron, R. F. (1969). The use of vocabulary as an advance organizer. In H. L. Herber, & P. L. Sanders (Eds.), Research in the content areas: First year report. Syracuse, New York: Syracuse University Reading and Language Arts Center.

Baron, R. F., & Earle, R. A. (1973). An approach for vocabulary instruction. In H. L. Herber, & R. F. Baron (Eds.), Research in reading in the content area: Second year report (pp. 84-100). Syracuse, New York: Syracuse University Reading and Language Arts Center.

Bean, B. W., Singer, H., Sorter, J., & Frazee, C. (1986). The effect of metacognitive instruction in outlining comprehension in a tenth-grade world history class. Journal of Reading Behavior, 18, 153-159.

Clewell, S., & Haidemenos, J. (1983, May). Organizational strategies to increase comprehension. Reading World, 22, 314-321.

Earle, R. A. (1970). The use of vocabulary as a structured overview in seventh grade mathematics. Unpublished doctoral dissertation, Syracuse University.

Friedman, G., & Reynolds, E. (1980, March). Enriching basal reader lessons with semantic webbing. The Reading Teacher, 33, 677-684.

Glazer, S. M., & Searfoss, W. L. (1988). Reading diagnosis and instruction: A c-a-l-m approach (pp. 167-171). New Jersey: Prentice Hall.

Hanf, M. B. (1971). Mapping: A technique for translating reading into thinking. Journal of Reading, 14, 225-230.

Harris, A. J., & Sipay, E. R. (1985). How to increase reading ability. New York: Longman.

Heimlich, E. J., & Pittelman, D. S. (1986). Semantic mapping: Classroom applications. Delaware: International Reading Association.

Hoskisson, K., & Tompkins, G. (1987). Language arts: Content and teaching strategies (p. 235). Columbus, Ohio: Merrill Publishing Company.

King, Y. (1987, October). Graphic organizers. Paper presented at the national conference of the College Reading Association, Baltimore, Maryland.

Michigan Department of Education. (1986). What research says to the classroom teacher about reading. Michigan Reading Association, Michigan Department of Education.

Moore, D., Readence, J., & Rickelman, R. (1983). Prereading activities for content area learning. Delaware: International Reading Association.

Pehrsson, R., & Robinson, A. (1985). The semantic organizer approach to writing and reading instruction. Maryland: Aspen Publishers.

Readence, J. E., Bean, T. W., & Baldwin, R. S. (1981). Content area reading: An integrated approach. Dubuque, Iowa: Kendall/Hunt Publishing Company.

Sullivan, J. (1978). Comparing strategies of good and poor comprehenders. Journal of Reading, 21, 710-715.